

Human CG beta ELISA Kit (CGB3) αb272194

Recombinant SimpleStep ELISA<sup>®</sup>

4 Images

Overview

Product name Human CG beta ELISA Kit (CGB3)

Detection method Colorimetric

Precision Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			3.2%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	3			5%

Sample type Urine, Serum, EDTA Plasma

Assay type Sandwich (quantitative)

Sensitivity 2.62 pg/ml

Range 23.44 pg/ml - 1500 pg/ml

Recovery Sample specific recovery

Sample type	Average %	Range
Urine	90	85% - 93%
Serum	90	85% - 96%
EDTA Plasma	105	96% - 117%

Assay time 1h 30m

Assay duration One step assay

Species reactivity Reacts with: Human

Product overview Human CG beta ELISA kit (ab272194) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of CG beta protein in serum, plasma and urine. It uses our proprietary

SimpleStep ELISA® technology. Quantitate Human CG beta with 2.62 pg/mL sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less
- High sensitivity, specificity and reproducibility from superior antibodies
- Fully validated in biological samples
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate (**ab203359**) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

## Notes

Human Chorionic Gonadotropin (hCG) is a complex glycoprotein composed of two glycosylated subunits alpha and beta which are non-covalently associated and normally produced by placenta during pregnancy. Measurement of intact hCG and of the alpha subunit of hCG appears to give similar results in blood and urine but not the levels of beta subunit. The beta subunits are distinct in each of the hormones and confer receptor and biological specificity. CG beta (CGB3) has an essential role in maternal adaption and stimulates the ovaries to synthesize the steroids that are essential for the maintenance of pregnancy. hCG and the free subunits appear not to be useful as serological markers for nontrophoblastic tumors; however, the absolute increase of  $\beta$ -hCG level in choriocarcinoma patients clearly differentiates it from normal pregnancy.

## Platform

Pre-coated microplate (12 x 8 well strips)

## Properties

### Storage instructions

Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Human CG beta (CGB3) Capture Antibody	1 x 600µl
10X Human CG beta (CGB3) Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 4BI	1 x 6ml
Human CG beta (CGB3) Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit

Components	1 x 96 tests
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

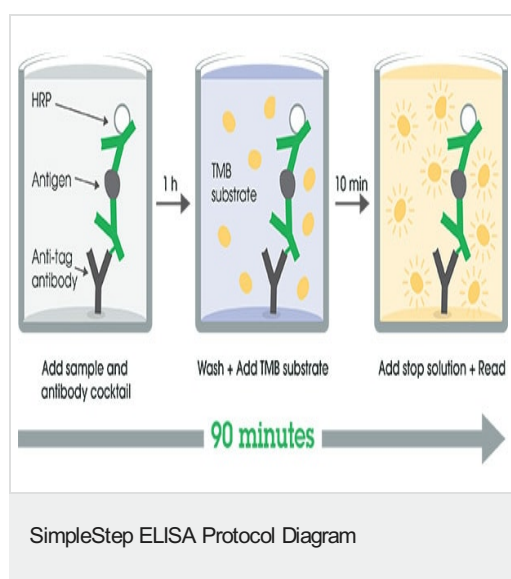
## Relevance

Human chorionic gonadotropin (hCG) is a glycoprotein hormone produced by trophoblastic cells of the placenta beginning 10 to 12 days after conception. Maintenance of the fetus in the first trimester of pregnancy requires the production of hCG, which binds to the corpus luteum of the ovary which is stimulated to produce progesterone which in turn maintains the secretory endometrium. hCG is present only in trace amounts in non pregnant urine and sera. It rises sharply during pregnancy. HCG is composed of two non identical, non covalently linked polypeptide chains designated as the a and b subunits. The a subunit of HCG is nearly identical to that of thyroid stimulating hormone (TSH), follicle stimulating hormone (FSH) and luteinizing hormone (LH). A germ cell tumor which is positive for cytokeratin, placental alkaline phosphatase (PLAP) and HCG but negative for EMA and AFP is probably a choriocarcinoma.

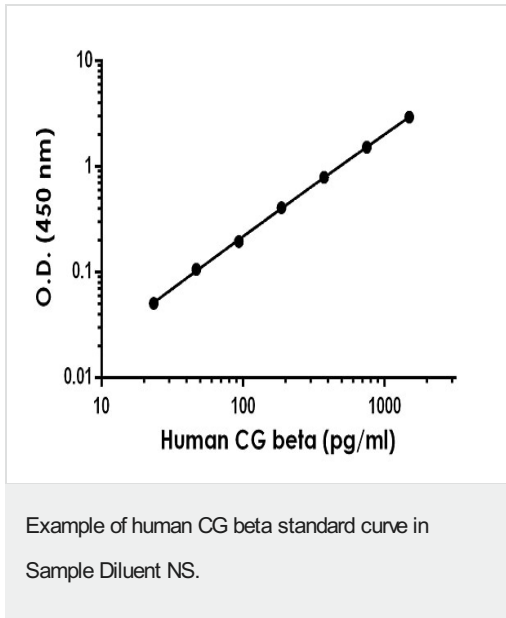
## Cellular localization

Secreted

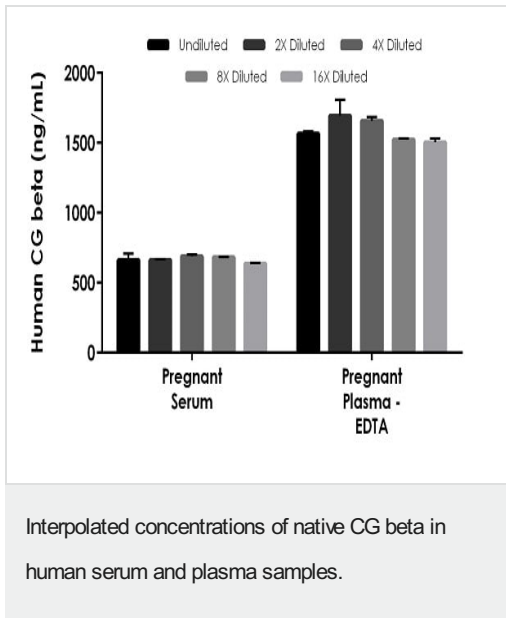
## Images



SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



The CG beta standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean  $\pm$  SD) are graphed.



The concentrations of CG beta were measured in duplicates, interpolated from the CG beta standard curves and corrected for sample dilution. Undiluted samples are as follows: pregnant serum 1:1000 and pregnant plasma (EDTA) 1:2000. The interpolated dilution factor corrected values are plotted (mean  $\pm$  SD,  $n=2$ ). The mean CG beta concentration was determined to be 666.7 ng/mL in pregnant serum and 1,589 ng/mL in pregnant plasma (EDTA).

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Animal-free  
production

Sandwich ELISA - Human CG beta ELISA Kit  
(CGB3) (ab272194)

To learn more about the advantages of recombinant antibodies see [here](#).

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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